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Food Restrictions of the Mbuti Pygmies, Eastern Zaire

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ABSTRACT While the Mbuti Pygmies utilize more than 300 animal and plant species as their food, only 60% are eaten freely by anybody without restriction. Of the remaining 40% avoided by the Mbuti for various reasons, more than 85% are the animals (including a few plants) which, called *kweri* in general, are conditionally restricted. These animals are thought to be dangerous, because the Mbuti think they may cause diseases or other disorders to the person who eats them, to his or her small child, or even to the unborn baby. All the Mbuti are not affected by the *kweri*. Newborns, infants, and those in the initiation period are thought to be specially susceptible. The general tendency is that the restriction for these animals is relaxed as one grows old. The diseases caused by *kweri*, their prevention and cure, and the characteristics of these "dangerous" animals are described and analysed. It is suggested that the food restriction provides us with a clue to an understanding of the Mbuti's concepts of diseases and eating food.

DIVERSITY OF THE MBUTI FOOD

The Mbuti net-hunters are hunter-gatherers in the tropical rain forest, the Ituri Forest, of northeastern Zaire. They have been keeping a so-called symbiotic relationship with the Bantu and Sudanic agriculturalists at least for several hundred years (Turnbull, 1965) or more (Bahuchet and Guillaume, 1982; Hart and Hart, 1986; Bailey and Peacock, in press). Their life have changed considerably through this interdependent relationship. One of the examples of such changes through contact is their language. Today, they speak a dialect of the languages of their neighboring agriculturalists, and lost almost entirely their original language. Another example is the dual residential pattern consisting of a semi-sedentary base camp near the villagers and a nomadic forest camp.

The effect of contact is also obvious in the subsistence activities. First, since the interdependent relationship was established, the Mbuti has been providing the agriculturalists with manpower. They help the agriculturalists clear the forest, plant and weed the fields, watch the animals, harvest and process the crop. The Mbuti's labor has played an important role in the environment of humid tropics which has enormous plant biomass and shows a rapid growth rate. There is a vast cultivable land in the Ituri forest. The expansion of agriculture is, therefore, not dependent on the land available to them, but largely on the manpower available for cultivation. The traditional agriculture in the Forest remained at a subsistence level, and did not produce a substantial surplus for a large-scale trading. However, Mbuti's manpower must have been of considerable help to the agriculturalists who were expanding themselves into the interior forest.

The second and perhaps more important effect of contact is that they have changed from self-sustaining, generalized hunter-gatherers to specialized hunters. Today, even at a forest camp, they depend for as much as 60 to 70% of their caloric intake on agricultural food (Ichikawa, 1986; see also Hart, 1978 and Bailey, 1985) obtained mainly in exchange for game meat. On the other hand, the Mbuti have been playing an important role as the meat providers in the interdependent relationship with the agriculturalists (Ichikawa, 1986), especially in the central and southern parts of the forest where the game are less abundant and the agriculturalists do not hunt much. Formerly, the exchange of the Mbuti and the agriculturalists took a form of reciprocal gift-giving between a particular Mbuti and an agriculuralist* who were connected each other through fictive kinship (Ichikawa, 1978; Terashima, 1986). Among the Efe Archers (the Lese-speaking Mbuti) in the northern part of Ituri, this form of exchange is still very common. Among the Bira-speaking Mbuti, who are net hunters and have been involved in market hunting for more than 30 years (Hart, 1978), the importance of such traditional exchange has been reduced. They usually obtain agricultural food through either exchanging the meat and other forest products at a more or less fixed rate, or providing the agriculturalists with day-based labor, *parajuru* (derived from "par jour" in French), for various agricultural works.

Before the contact with agriculturalists, the Mbuti must have been generalized hunter-gatherers depending on a wide variety of natural resources. Since the contact they have changed to specialized hunters depending on a small number of species at least from a quantative viewpoint (Ichikawa, 1983). Ungulates, specially forest duikers, account for more than 80% of the catch and are the most important game of the Mbuti (Harako, 1976; Ichkawa, 1983). However, they still utilize a number of plant and animal species of the forest as their food. According to Tanno (1981), they utilize 12 species of roots, 19 of seeds and nuts, 20 of fruits and berries, 5 of leaves and 26 of mushrooms. Various wild animals are also hunted, because in the Ituri Forest even the agriculturalists do not keep livestock except chickens and some goats which are mainly used for marriage (bridewealth) and other social and ritual purposes by the agriculturalists. The peoples in the Ituri forest, whether the Mbuti, Bira or Lese, depend largely on the wild game for their animal protein supply.

The Mbuti consider 57 mammals as food. The only wild mammals that are not eaten are some rats, including house rats which are thought to be dirty. Most Mbuti in the Tetri Region would not eat goats, because they are "village animal". Of more than 110 species of birds observed so far, all but 5 are regarded as food. These five are two species of nightjars, owls, pied wagtails and swallows. According to them, they would not eat owls because they are, unlike other birds, nocturnal and the "police" of a witch (*mumba* in Kibira, *mulozi* in Kingwana). Nightjars are also nocturnal and avoided by the Mbuti, although they are not associated with a witch. Pied wagtails are not eaten because they always inhabit a human settlement, and some kind of misfortune will result if they kill them. Swallows are used as a ritual medicine (*sisa*) for net hunting.

Of the reptiles and amphibians observed in the Ituri forest, only 9 species are eaten; two species of crocodiles, land tortoises, monitor lizards, pythons, 2 of vipers and 2 of frogs. The Mbuti perhaps eat all the fishes available in the study area. They like fish very much. They, however, seldom fish except when they

occasionally obtain fishing hooks, or when they (mostly women and children) do collective fish poisoning and fish bailing in the dry season. Fishing with nets and traps is carried out by some of the agriculturalists in the Tetri region (Fig. 1) where my study was carried out. Some Mbuti accompany with the agriculturalists in fishing and they do know how to fish. They can even make fish traps or a dug-out canoe with an adze borrowed from their partner agricrlturalist. However, they do not fish much by themselves. This shows another example of specialization in the subsistence activity, or role differentiation between the Mbuti men and the agriculturalists; the Mbuti specialized in hunting, while most agriculturalists in farming and some in fishing. At the ideological level, this is partly supported by the symbolic opposition between hunting and fishing. Fishing is closely associated with water, hence rain which spoils their net hunting, the male's principal subsistence activity. The Mbuti men sometimes get angry even when their children playing in the nearby water spread the water in the camp, saying that it will make the forest cool and spoil the hunt. Such symbolic opposition between hunting and fishing, or between land and water, is also seen in cooking, as will be mentioned in the next chapter.

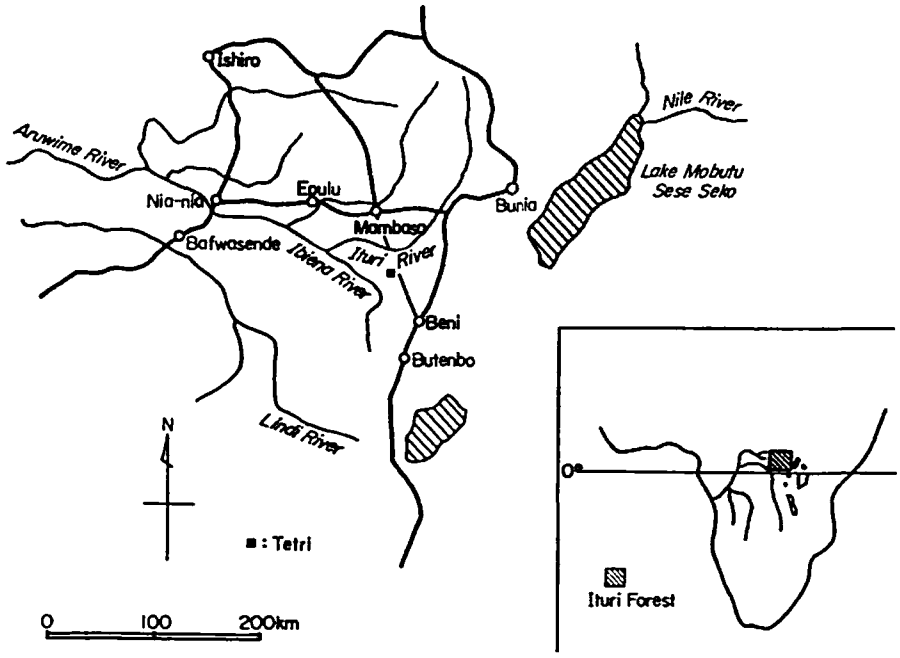

Fig.1. The Ituri Forest and the study area.

In addition to the animals mentioned above, the Mbuti regard more than 20 species of non-vertebrates as food. These include freshwater crabs, snails, locusts, termites, and larvae of various beetles and moths. Honey from sixteen species of bees is also collected in the forest.

Compared with other peoples in Africa, the Mbuti utilize a wider variety of animals, as shown in Table 1. Originally, man has an omnivorous, or generalized,

Table 1. Number of animal species utilized as food.

People	Area	Environment	Subsistence base	Mammals ( )*	Other animals	Total	Source
Mbuti	Zaire	forest	foraging	57 (60)	170**	227	Ichikawa
BaMbote	Zaire	woodland	foraging	35 (?)	?	?	Terashima, 1980
Dorobo	Kenya	forest & savanna	foraging & pastoralism	26 (41)	?	?	Ichikawa, 1980
! Kung	Botswana	dry savanna	foraging	28 (58)	24	52	Lee, 1979
G/wi & G/ana	Botswana	dry savanna	foraging	33 (34?)	15	48	Tanaka, 1980
Tongwe	Tanzania	woodland	horticulture	37 (91)	126***	163	Itani, 1977
Boyela	Zaire	forest	horticulture	44 (?)	?	?	Sato, 1983
Rendille	Kenya	semi-desert	pastoralism	7 (29)	0	7	Sato, 1980
Turkana	Kenya	dry savanna	pastoralism	44 (56)	62	106	Itani, 1980

*: The number in the parenthesis shows the number of animal species recorded in each study area.
**: Including 18 species of fish.
***: Including 60 species of fish in Lake Tanganyika.

food habit (Itani, 1978). He has more or less specialized in diet since he began cultivation and livestock keeping. The tradition of omnivority is best retained by hunter-gatherers, especially by those living in tropical rain forests. Like the Mbuti in Ituri, the Aka Pygmies in the forest of Central Africa also utilize a diversity of animal foods (see Bahuchet, 1985).

FOOD RESTRICTIONS

Of more than 300 animal and plant species regarded as food by the Mbuti, 115 are prohibited or avoided by some or other Mbuti for various reasons (Table 2). Especially, nearly a half of the animal food is avoided by certain categories of people, and only another half is regarded as ritually non-marked. On the contrary, almost 90% of the plant food are eaten freely whenever they are obtained. Of the 115 food species avoided by at least some Mbuti, more than 90% are animals. This means that the food restriction is concerned principally with animal food. They usually refer to animals when explaining the food restriction.

The Mbuti have various types of food restriction. Some foods are prohibited throughout their life, while others are avoided only in certain periods of their life cycle. There is also a wide range of the strictness of restriction. Some foods are considered to cause a grave misfortune and are strictly prohibited or avoided.

Table 2. Number of food species restricted.

	No. of food species	No. of restricted species (%)
Mammals	57	48 (84)
Birds	108	37 (34)
Reptiles and Anphibians	9	9 (100)
Fish and other animals	53	12 (23)
Plants	78	9 (11)
Total	305	115 (37)

while others are less dangerous and it is under personal decision whether or not they eat them. The following is the outline of the various types of food restriction.

Nginiso (*ngini*, or *ngini-so-su* meaning our *ngini*) literally means the thing that one should avoid. It actually means the animals which each descent group is prohibited from eating. The Mbuti have, like the Bira agriculturalists, loose patriclans called *banama* (literally meaning a group of sibling). Each *banama* has its own animal(s) (*nginiso*) which its members can not eat. They say that *nginiso* animals had a close relationship with their ancestors, or even that the animals themselves were their ancestors. However, no special ritual is performed concerning the *nginiso* animals. They can be regarded as totemic animals by which the Mbuti distinguish their clans from one another. Some *banama* have only one species as their *nginiso*, while others avoid eating several related species. Those with *nginiso muli* (leopard) avoid almost all the carnivores as well as leopards.

The principal hunting method in the Tetri region is net hunting in which both men and women participate. The major animals caught by the nets are forest duikers and chevrotains which together account for more than 80% of the total catch (Tanno, 1976; Ichikawa, 1983). These animals are collectively called *nyama-panda* or *bapanda*. Women are prohibited from eating the heart, lung, liver, spleen, kidney and testicles of these animals, and the head of medium-sized duikers. Moreover, the women in the Tetri region are entirely prohibited from eating chevrotains and Bate's antelopes. It is said that if the women should eat such prohibited animals or a part of them, it would spoil the net hunting. On the contrary, only women and children can eat frogs, freshwater crabs and snails. When they eat these animals, however, they should not be cooked in the same pot with that used for cooking meat. To do so would spoil the hunt. Putnam (1948) pointed out that these animals are associated with water, hence rain which spoils the hunt, their principal subsistence activities. Three species of mushroom are prohibited at a hunting camp, perhaps for the same reason. Even at a base camp where they are frequently eaten, they are not cooked with the meat from the forest. Other species of mushroom are however cooked and eaten frequently with the meat at a forest camp. All these prohibitions associated with net hunting are called *muziro ya mukila* in Kingwana (a Swahili dialect). In a forest camp where net hunting is carried out, the Mbuti must observe other behavioral prohibitons. It is prohibited to throw a stone in a camp, to spill cold water over the fire in the morning before going out for hunting, or to follow someone immediately after he goes out from a camp. These behavioral prohibitions are called *nba* in general, and if they are violated, they say the master of the forest (*apakumandura*) will get angry and make the forest cool and closed to the Mbuti.

Kweri is a bad animal which may cause an illness to the one who eat it, or to his (or her) child. As will be seen in detail, it is dangerous only to those in a particular period of life cycle, for example to those who have newborn children, or those who are in the initiation ceremony. Among the *kweri*, there are some animals which are not regarded as food by the Mbuti. Nightjars, centipedes called *amanjelenjele*, or insects called *amasongesonge* may cause an illness if only one has a short glance of them. The most dangerous *kweri* is *apɛdakyo* which is a monkey-like animal with a red tail and long white cheek-hair. If one happens to see this animal, he will inevitably get a severe illness and eventually die, unless some appropriate treatment is made. A similar dangerous animal is also known among the Lese

Mbuti (Efe) by the name of *amaiyaka*. It is interesting to see that the two Mbuti groups who have been closely associated with different linguistic groups (one with the Bantu, and the other with the Sudanic) share a similar belief.

A pregnant woman and her husband must avoid certain animals which may cause deformation of a newborn child, or a difficult delivery. Such animals are called *ekoni*. Young parents who have not yet lost their children must avoid three species of francolins (*endonbi*, *ekonbi* and *koryakorya*) which are called "birds of *ekusa*". If they eat one of these birds, their children may die. There is a kind of mushroom called *mamkbama* which grows on the ground, and turns into reddish-brown when cooked. It is also called *atikisa* and belived to cause impotence, hence the youth are prohibited from eating because they are expected to be sexually active.

Of the various restricted foods, *nginiso* of the *banama* (clan) and the animals restricted to a particular sex are avoided throughout their life after matured. On the contrary, *kweri*, *ekoni*, *ekusa* and *atikisa*, which are often called *kweri* in general, are avoided only in a certain period, and in this sense they are subject to "conditional restriction". There is another conditional food restriction placed on the parents of a newborn baby. For about one week to ten days after the birth of a child, they must avoid all the meat. Included in this category of meat (*nyama*) are all the mammals, reptiles and amphibians, but birds and fishes are not included. After a week or so when an umbilical cord gets dry, the parents take the baby out of the hut, and make small incisions on its body, rubbing the ashes of duiker's hair and some forest plants into them. Only after giving this treatment to the baby, they can eat the meat again.

The number of food species for each type of restriction is given in Table 3. The conditional restriction, especially that for *kweri*, is by far the most important from a quantitative viewpoint.

Table 3. Number of species for each type of restriction.

	Mammals	Birds	Rep. & Anph.	Other animals	Plants	Total
nginiso	20	3	5	1	0	29
muziro	8*	0	2	3	3	16
ekusa	0	3	0	0	0	3
ekoni	14	1	4**	6	4	29
kweri	29	26	4	5	1	65
atikisa	0	0	0	0	1	1

*: For six duiker species, only internal organs are prohibited.
**: Only the eggs are avoided.

EKONI AND *KWERI*

1) *Ekoni*

The Mbuti have a clear image of the result of eating restricted animals. It is not a kind of vague anxiety, but takes a more concrete form. If a pregnant woman or her husband eats *ekoni*, for example a tree hyrax, they fear that their baby may be born with only four fingers, since this animal has a leg with only four toes. In

the same manner, a giant rat or an aardvark is thought to cause a delay in delivery because of their habit of staying in an underground nest. Similarly, a tree pangolin and a giant pangolin may cause a fatal bloodshed on delivery, since these animals have red flesh and bleed considerably when they are slaughtered. A genet, a small-sized carnivore, may cause the birth of a small baby, and a chimpanzee may make the baby's lip turned up. An elephant shrew may make a baby's pennis extremely long, while a catfish called *njo* may make a slow-moving baby, etc.

In these examples, it seems to exist a kind of association between the morphology or habits of the animals (*ekoni*) and the human abnormality brought by these animals. Most of the *ekoni* seem to have some strange or conspicuous appearance different from other animals. It might be thought, therefore, that these animals are avoided on account of their inherent morphological or behavioral attributes. However, it should be noted that such an association between human and animal attributes is not possible unless there exists at least a social agreement on what the "inherent attribute" of a particular animal is, as Hubert and Mauss (1902) pointed out. It remains more or less arbitrary which particular animals among many other similar ones the Mbuti choose as *ekoni*, or which attribute of animals they choose to associated it with a human abnormality. For example, there are other kinds of slimy and slow-moving catfish, *kebuku* and *bunge*, which are not *ekoni*, but used as a medicine for a smooth delivery. Among the Mbuti in other regions, a buffalo and a bongo, which are not *ekoni* in the Tetri Region, are avoided by a pregnant woman, because these animals have long horns which make a baby "caught" in the parturient canal.

Once the deformation occurs on a baby, it is impossible to cure it. Even so, the *ekoni* are not always avoided by the Mbuti. They may eat them without noticing the pregnancy. Even if they know the pregnancy, they may eat them. If a pregnant woman is caught by the fear of an abnormal delivery, she will put with her a piece of the fur or bone of the *ekoni*, or rub the ashes of the *ekoni* into an incision made on her body in order to prevent the dreadfull result of the *ekoni*.

When a baby is born with an abnormal state unfortunately, the parents think over what they did during the pregnancy. If the mother experiences a excessive bleeding on delivery and the parents call to their mind that they ate a pangolin, they will say about the abnormal delivery "*Abi ekoni la eboso* (It was the *ekoni* of a tree pangolin)".

2) Diseases caused by *kweri*

While *ekoni* affects an unborn child or its mother, *kweri* affects the Mbuti after their birth. The disease caused by *kweri* varies according to the animal species. The following are the examples of the disease caused by *kweri*.

a) *sesya* (fever)

A malaria-like disease characterized by a terrible shiver, fever and body pain. Gabon duikers, yellow-backed duikers, Peter's duikers, Bate's antelopes, civets, spotted hyaenas, otter shrews, flying squirrels etc. are said to cause this disease. The animals causing this disease are regarded as very dangerous and strictly avoided.

b) *fanda* (skin disease)

When a child suffers from prolonged skin diseases such as rashes, warts or boils, the Mbuti probably think that they are brought by *kweri*, such as a bush

pig, black-legged mongoose, Guinea-fowl, or porcupines.

c) *hala* (diarrhoea)

It is said that a crocodile, bush pig, and fish like *mukoloto* (unidentified) or *mangba* (unidentified) cause diarrhoea, sometimes very severe diarrhoea with bloody excrement.

d) other diseases

If parents eat a wattled black hornbill or nuts of *njee* (unidentified), their children may become to cry always. Honey of stingless bees which make an underground nest causes an eye disease. A galago or potto makes the human eyes extraordinally large like a Basedow's disease.

Unlike the case of *ekoni*, no apparent correspondence is found between the attributes of *kweri* animals and the diseases caused by them. It is sometimes dependent on the personal experience which animals are regarded as *kweri*. If one gets a severe illness after eating a certain animal, he probably thinks it is *kweri* because it has brought the illness. Taking such a situation into consideration, it is not surprising that there is some differences among the groups or among the localities in the animal species regarded as *kweri*, and in the types of disease brought by them to the humans. It is, however, sufficient at this stage to point out a definite similarity of the ideas among the different groups and localities of the Mbuti. The similarity is that the Mbuti consider a considerable number of animal species have the potential to cause diseases and that their major diseases, i.e. fever, diarrhoea and skin diseases, can be attributed to these animals.

Similar belief on the dangerous animals is found also among the Efe (the Lese-speaking Mbuti) in northern Ituri. Here, the dangerous animals are called *eke* in general which includes both *kweri* and *ekoni* in the Tetri region. There are some differences in the animals regarded as *eke* and in the type of disease attributed to each *eke*. The core of this belief, however, remains the same. The Efe have been associated with the Sudanic-speaking agriculturalists, the Lese, whereas the Mbuti in Tetri have a close relationship with the Bantu-speaking Bira. It is noteworthy that the two Mbuti groups influensed by different linguistic and ethnic groups share a common custom of food restriction. Moreover, the Lese and the Bira agriculturalists themselves have similar food restrictions for dangerous animals which are also called *eke* and *kweri*, respectively. This shows an example of a cultural convergence which is found in many aspects of the lives of the peoples in Ituri.

I found from the observation of many instances that there is a grade of danger in the *kweri* animals, from the most dangerous which are strictly avoided to the less dangerous which are sometimes eaten without taking any precautionary measures. The most dangerous *kweri* is *apedakyo* mentioned before, which can cause a fatal disease if only one happens to see it. The second most dangerous are otter shrews, bats, flying sqiurrels, and the birds such as egrets, coucals and parrots. These animals are called *"nyama la mangésé* (meat of the old)" or *"babu la mangésé* (bird of the old)". If the young eat them, they will cause a severe fever, *sesya*. There is little local or individual difference as to which animals are rated into this grade and the danger of these animals is widely known among the Mbuti. In the third grade there are mongooses, genets, *mukoloto* (fish), *mamgba* (fish) and other animals. They are usually avoided by the parents of a newborn. When they dare to eat them, they usually take some precautionary measures as will be described below. Included in the last grade are porcupines, plumed Guinea-fowls, dark mon-

gooses and others, which are sometimes eaten even by the parents of a newborn baby or by the initiates upon whom the prohibition is placed. Some people even do not take any precautionary measures against these less dangerous animals. According to the Mbuti, these animals have only a weak power of causing diseases, and even if they bring a disease, usually it is not serious.

3) Prevention and cure of the diseases caused by *kweri*

All the physical disorder is not attributed to the effect of *kweri*. When the Mbuti get an illness, for example fever, they usually take an empirical or symptomatic treatment at first, such as resting with their heads tightly bound with headbands or bleeding from small incisions made on the body. The decoction of the bark or root of certain forest plants are often used as medicine for stomachache or diarrhoea. In most cases, the diseases are cured by these simple treatments, or they heal naturally of themselves. When a disease is serious or prolonged, they begin to think over its cause. If they call to their mind that they ate *kweri* previously, they will probably attribute the disease to that animal.

Once the cause of the disease is attributed to *kweri*, an ordinary treatment is no longer thought to be effective. Even the Western medicines can not cure it, although the Mbuti generally believe in their effectiveness for the simple diseases for which the reasons are not questioned seriously. When they come to ask for Western medicines, they insist that they ate nothing bad and that the disease is not caused by *kweri*.

For the disease caused by *kweri*, the treatment varies according to the animal which has brought it, although the principle of treatment is nearly the same. The only difference lies in the substances actually utilized. Generally, the following treatments are made for both curing and prevention.

(a) A piece of bone or fur of the animal (*kweri*) considered to bring or to have brought the disease is put on the body, or, the ashes of the fur are rubbed into small incisions made on the body. If the *kweri* is a plant, its leaves or bark are used in the same way.

(b) A piece of wood or seeds of the plant on which the animal feed is put on the body, or, its leaves and fruits are roasted and the pounded charcoals are rubbed into the incisions. Its green twigs are put in a fire and the smoke is applied to the patient. In case the plant is a herb, the juice squeesed from the leaves and soft stem is drunk or put into the nose. Also, a whole plant is softened and snuffed.

(c) If the animal makes a nest, its nest is also used in a similar way. If it is a fish or other water animal, the water is drawn from where the animal was found, then poured on the patient. Also, the wood near the animal in the water is cut and burnt, and the ashes are rubbed into the body.

(d) The leaves of *yongai* (belonging to Orchidaceae) and the seeds of *sana* (*Pseudospondias microcarpa*) are also used for curing the diseases caused by the animals which do not feed on these plants. These plants are said to be a powerfull medicine.

(e) Many Mbuti infants wear several pieces of wood, about the size of a medicine capsule, around their waists, wrists and ankles. These are called *angbe la bakweri* (wood of *bakweri*) or *diko*. They are the charm against various diseases caused by *kweri*. The plants used for this purpose are *sana, taha* (*Erythrophleum guineense*), *tengwe* (unidentified) etc. which are thought to possess strong power for

preventing diseases. Some Mbuti put also a piece of the fur of an otter shrew, tree hyrax or flying squirrel. These animals are powerfull *kweri* which may cause a severe disease. However, if used properly, they have also the potential to prevent people from the diseases of *kweri*. Thus, the power of *kweri* affects the Mbuti in two ways; it brings a disease to those who eat its meat, its actually assimilable part, and it prevents against a disease those who wear its fur which is not actually assimilable.

As has been examined above, the principle of curing and prevention of *kweri* and *ekoni* is not complicated. It is similar to the method of controlling poison by means of poison. In other words, it applies the principle of homeotheraphy in a broad sense. In the case of a disease caused by *kweri*, a symptom-specific treatment is not taken, but the treatment is specific to the animal which causes the disease. In most cases, the medicine for it is derived from the substance which has some contagious relationship with the particular *kweri* animal.

FOOD RESTRICTIONS AND LIFE CYCLE

A young couple must avoid three kinds of francolins called the birds of *ekusa* until at least one of their children dies. When a wife gets pregnant, she and her husband must avoid the animals (and some plants) of *ekoni* until the birth of a child. It is not the parents but their child who is affected by *ekusa* and *ekoni*. The Mbuti think that they are exposed to the dangerous animals long before the birth.

After the birth, a child is now affected by *kweri*, and the parents must avoid various animals. The restriction on *kweri* is strengthened or relaxed according to the life stages. The Mbuti life can be divided into the following stages.

(a) Before weaning

The first stage is from birth to weaning. Children at this stage are called *mikili-ma-kalungo* (children-of-suckling). The Mbuti infants wean approximately at the age of three, but it varies depending on the timing of a next birth. At this stage, children are protected by their parents who strictly avoid *kweri*. It should be noted that the parents avoid *kweri* not in place of their children. The children do not eat much animal food. While the parents are themselves resistant to *kweri*, they have a contagious relationship with their children through frequent suckling and touching. Through such actual contacts, the children may be affected by the *kweri* which is eaten by the parents. When an initial crisis is over and the children begin to crawl, the restriction placed on the parents is gradually relaxed. When the children begin bipedal walking, it is considerably loosened.

(b) From weaning to adolescense

Children at this stage are called *apaloko* for males and *amasika* for females. After children begin to eat meat and to stay more or less independently from the mother, the restriction is not placed on the parents but on the children themselves. The parents do not let their children eat restricted foods. The children at this stage are still weak. They may be affected by a powerfull *kweri* by only touching it. As they grow, the number of restricted animals decreases.

(c) Adolescense and initiation period

There are initiation ceremonies among the Mbuti; a boys' circumcision rite called *nkumbi* (Kingwana) or *baganja* (Kibira) and a girls' puberty rite called *elima*

(for the details, see Turnbull, 1965). *Nkumbi* is performed around the age of ten. *Elima* is done before marriage and usually after at least one of the initiates (*bamelima*) goes through first menstruation around midteens.

Traditionally, the Mbuti and the Bira held a joint circumcision rite under the leadership of the latter. Today, since most Bira boys in the Tetri region are circumcised at a local dispensary, the circumcision rite is performed only by the Mbuti led by the Mbuti elders and circumciser (*samba*). The initiates (*baganja*) are kept in a special camp built in the nearby forest for a few months until the cut heals. During this period and several months after coming out from the forest, the initiates are prohibited from eating certain animal and plant foods. These prohibited foods are also called *kweri* and if they eat them, an illness or worsening of the cut is caused.

(d) Youth

The young after initiation are called *kota* for males and *sika* for females. They participate in the net hunting, the principal hunting activity of the Mbuti in the Tetri region, as full-fledged hunters or beaters. However, they are not yet accustomed to spear hunting or honey collecting both of which require skill and courage. The number of *kweri* avoided by them becomes much less than that in preadolescense.

(e) Adult

When they become adult and get married, they can eat almost all the potential *kweri* except for *nyama la mangésé* (meat of the old). However, if a woman gets pregnant, or gives a birth, the number of restricted food increases again for the sake of the baby who is specially susceptible to *kweri*.

(f) Old

The old can eat all the animals regarded as food, except for *nginiso* and the animals restricted to a particular sex. If the meat for the old is obtained, it is brought to the old. It is only *apedakyo* (and other dreadfull animals in the Ituri River) that can affect the old. It is however, doubtfull that these animals really exist.

I have pointed out that *kweri* and *ekoni* are avoided conditionally by the Mbuti in certain periods. They say these animals cause diseases to them or to their children. While such a statement can not be accepted at a face value, it reflects at least their fear of various indescribable diseases which threaten their life. When they say certain animals should be avoided in certain periods, it means, first of all, that they are in a crisis when great care should be taken.

It is therefore necessary to examine how the Mbuti conceive of their crisis. It is shown in Fig. 2 the change in the number of restricted foods as the life stage proceeds. As mentioned earlier, the parents immediately after giving a birth should avoid all the animals of the category of *nyama*, which is also shown in the figure.

The number of restricted foods reaches the highest peak immediately after birth, then gradually decreases as a child grows and gets strength. A small seak is also found at the initiation period, after which the restriction is again lowered. The general tendency is that the restriction is gradually relaxed as one grows. When parents consider whether or not their children may eat the potential *kweri*, they re-

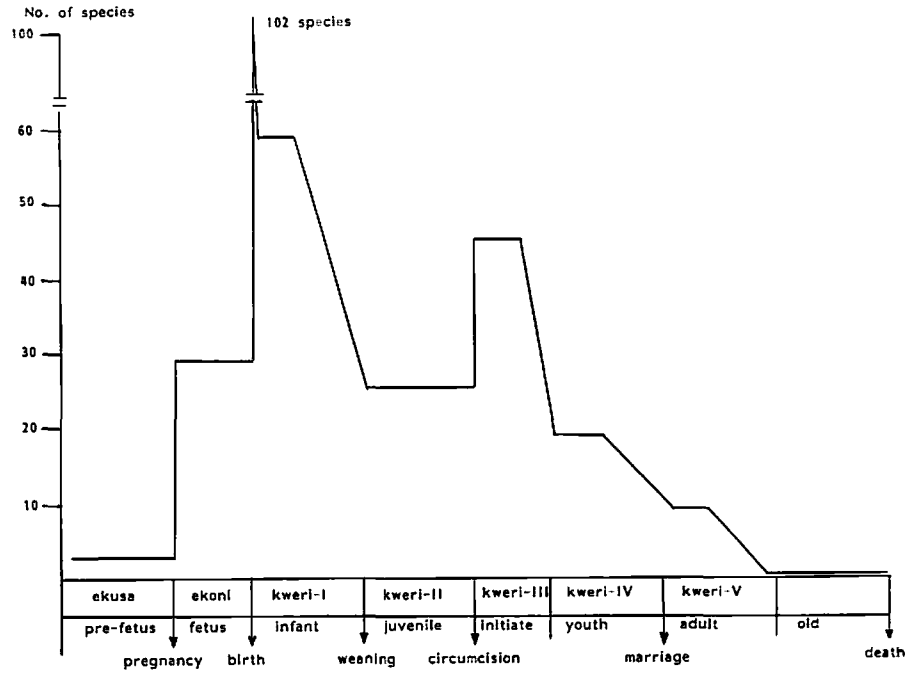

Fig.2. Food restrictions and the life cycle.

fer to rather vague criteria. For example, they say "my child is still too small, so I won't eat it", or, "the baby has grown and got enough strength, so I can eat this animal". Such a decision may vary from person to to person to some extent, because it is left to the care of the parents. However, it should be noted that while there is a grade in the danger of *kweri* animals, there is also a difference on the human side in the strength to resist against *kweri*. The newborn are the weakest and the old are strongest. The more dangerous animals can cause a disease even to the stronger, and are avoided until the late stage of life.

I checked at Mawanbo band, where the research was made in 1974–1975, 54 births, of which 6 were stillbirth, 12 died before weaning. Although the sample size is too small to make any generalization possible, it probably reflects this high mortality rate in infancy that the food restriction is most extensive and strict before weaning.

The initiation period and old age are peculiar in that the restriction does not reflect the actual life crisis in these stages. A circumcision is performed, at least in principle, when the Mbuti boys move to the youth and adulthood. It can be regarded, as it were, as a ritual of the social birth of an adult. The prohibition in this period is, therefore, extensive and strict like that in early infancy. By placing a similar food restriction on the initiates, the Mbuti treat them as the social equivalent for the newborn. The nomenclature also supports this idea: a circumciser of the initiates is called *samba*, which also means a midwife.

It is unbelievable that the crisis ceases to exist in the old age. While the crisis does exist, the old can eat potential *kweri* because, according to the Mbuti, they have rich experience and strength to counter the dangerous animals.

CHARACTERISTICS OF THE *KWERI* ANIMALS

Since the restricted animals vary according to the life stage, they can be regarded as the indicators of the Mbuti's position in their life cycle. A man's position in a life cycle can be understood from what he avoids eating. From such a sociological viewpoint, only a part of the food restriction can be explained. In order to distinguish life stages according to the animals avoided, it is not necessary more than that a set of animals avoided at each stage should differ from each other. We cannot explain from this standpoint why only certain animals, and not all of them, are considered to have the potential to cause diseases. The key to an understanding of the food restriction cannot be found through examining the human side only, but perhaps found through examining the interplay between the human (social) and animal (natural) sides. In order to clarify this, it is necessary to examin the characteristics of the restricted animals.

Leach (1964) and Douglas (1957) pointed out that the anomalous animals in a folk classification system are liable to be treated as taboo or as the object for a special ritual. Douglas stated that the Lele woman of Kasai, Zaire, avoid flying squirrels or pangolins simply because they are anomalous (they are regarded as neither complete mammals nor birds), and that this involves no apparent religious symbolism. Some of the animals avoided by the Mbuti are certainly considered to be anomalous. These include flying foxes, flying squirrels, otter shrews (small water mammals), francolins and Guinea-fowls (terrestorial birds), and chimpanzees (tailless mammals). Pangolins which are regarded as anomalous among the Lele are also avoided by the Mbuti pregnant women and their husbands as *ekoni*, but this is because their red flesh and excessive bleeding are directly associated with an abnormal delivery of the Mbuti women.

The animals which are restricted conditionally amounts to more than 60 species. It is impossible to explain all these cases by the theory of anomaly only. Besides being anomalous, the following attributes can be listed as the reason for the restriction of particular animals.

(a) The restricted animals generally occupy only a minor part of the Mbuti's diet, both quantitativeiy and qualitativeiy. The most important game of the Mbuti are forest duikers (*Cephalophus* spp.), especially blue duikers, black-fronted duikers and Bay duikers which together account for more than 80% of the total catch by net hunting. These most important duikers are not *kweri*, whereas other less common duikers such as yellow-backed duikers, Peter's duikers, Gabon duikers and Bate's antelopes are regarded as *kweri*. Also, while common primates like red colobuses, blue monkeys and red-tailed monkeys are not *kweri*, less common ones are *kweri*. Less common but highly prized animals such as okapis, buffaloes, giant forest hogs are not restricted. Elephants, one of the most valued animals, are however *ekoni*. Pregnant women and the initiates can not eat the most prized part, the nose of an elephant.

(b) Animals which have a strong smell are regarded as *kweri*. The Mbuti often explain that certain animals are *kweri*, because they have a strong smell. The animals included in this category are mongooses, hyaenas, genets, civets, etc. all of which have scent glands. Although most duikers in the study area have scent glands (Haltenorth and Diller, 1980), only yellow-backed duikers, Gabon duikers and Peter's duikers are regarded as the animal with a strong smell and avoided by

the Mbuti.

(c) Animals which, according to the Mbuti, have fierce eyes are also regarded as *kweri*. Most carnivores are considered to be *kweri* for this reason. However, leopards (*muli*), the largest carnivore in the Ituri Forest, are the exception to this.

(d) Immature animals are generally regarded as more dangerous than the matured. For some animals, only immature forms are regarded as *kweri*.

The Mbuti think that most of the *kweri* animals have some conspicuous attributes, such as a strong smell or fierce eyes which are not found among other animals. Some are regarded as anomalous. They are generally minor animals or marginality in the Mbuti's diet. In a word, they represent a certain kind of abnormality or marginality in the animal world (as it is conceived by the Mbuti), which stimulates the fear, anxiety or suspicion of the Mbuti. Because of such abnormality or marginality, the Mbuti think these animals have some supernatural power to cause diseases.

On the other hand, a disease itself can be regarded as an abnormal or marginal state in a human social world. It is something between the complete life and death. Here, an abnormal state (disease) is caused by an abnormal or marginal animal. The avoidance for *kweri* is, therefore, also based on the association of the ideas on human and animal attributes. Unlike the case of *ekoni*, we cannot find a coorespondence between the individual attributes of the animals and the diseases caused by them. However, the abnormal position of *kweri* in the animal world can logically be equated to the similar position of diseases in the human life.

DISCUSSION

A similar example of food restriction was reported on the Andaman Islanders in the Bengal Sea. According to Radcliff-Brown (1922), in the Andaman Islands, people of the following categories must avoid certain foods: a) people in mourning for a dead relative, b) parents of a newborn baby, c) females in menstruation, d) sick persons, and d) the adolescent including those under the initiation ritual. The restriction is placed most strictly on the last category of people, who are prohibited from eating almost all the important foods (jugons, sea turtles, bush pigs, honey, etc.) successively. Radcliff-Brown pointed out that these prohibitions perform a function to make the adolescent recognize the social value of food and their membership of a society. While food ensures their survival, it may cause disputes and threaten their life, unless it is treated properly. It is, according to Radcliff-Brown, because they are required to recognize the social value of food that the most severe prohibitions are placed on the adolescent who begin to take responsibility for procuring food. This interpretation, however, can not explain the reason why the prohibitions are placed also on the pregnant, infants, and the sick. Also, when taking into consideration the Mbuti case in which the restricted foods are only of minor importance in their diet, it is difficult to make any generalization from Radcliff-Brown's interpretation.

Based on the ethnography of Radcliff-Brown, Leach (1972) presented another interpretation. The people subject to the prohibition, according to Leach, deviate in some sense from the definite and opposing categories of "living" and "dead".

He insists that the people should be treated with special care, because they are in a boundary, hence dangerous state. This view seems to explain in a general framework (i. e., theory of a taboo for a boundary state) why the prohibition is placed only on certain people. However, it fails to explain the Mbuti case where the restrictions are gradually relaxed from birth to death, rather than placed on the people in transitional states only. I would like to stress again that the key to an understanding of the food restriction can only be found in the interplay between human (social) and natural (as it is conceived by man) conditions.

Another detailed example is reported on the Semaq Beri in Malaysia (Kuchikura, 1981). There is a striking similarity between the food restrictions of the Semaq Beri and the Mbuti. Among the former, as among the latter, the restriction is gradually relaxed according to the age, and various diseases are thought to be brought by the animals, which, according to them, have some or other "abnormal" characters, such as a bad smell, convulsing habits or inactive behavior.

It might be thought that the animals cause diseases simply because they are prohibited for some other reasons. Breaking a taboo is usually associated with anxiety, fear or even distraction which may in itself cause diseases. However, in the Mbuti and the Semaq Beri cases, no reason other than "conspicuosness", "marginality" or "abnormality" could be found in the *kweri* and *ekoni* animals. The animals are avoided by the Mbuti individually rather than socially prohibited. Unlike the case of *nginiso* and the animals restricted to a particular sex, no apparant social sanction is associated with eating the *kweri* and *ekoni*. Therefore, I would like to take a view that by the food restriction the Mbuti try to give a concrete form to the indescribable diseases threatening their life and to their floating fears of such crisis. In other words, it enables them to explain the cause of diseases and to take some measures against the diseases. Whatever fear the humans have, they can make it easier if only they identify its cause.

The Mbuti's notion that certain diseases are brought by the animals shows an interesting idea of eating food. Humans generally take external elements into their body through various routes, such as through perception, touching, breathing as well as eating. The elements causing various diseases also come into the body via these routes. Of these, eating seems to the Mbuti to be the clearest way to assimilate the external elements. Why, then, the Mbuti think an "abnormal" animal causes a similar state, a disease, to a man who eats it. Why eating pangolins causes excessive bleeding on delivery, or, why eating a flying fox or an otter shrew causes an anomalous state, a dangerous disease which corresponds to the similar position of these animals in the animal world. Represented in this idea is the Mbuti's concept of "eating". From a material point of view, to eat something is to assimilate and convert it into an energy source or cell tissues. The Mbuti consider this process not only as a material assimilation but also a psychological assimilation. They think that, through this whole assimilation process, they take into their body not only the substances (material) such as protein and carbohydrate, but also the external features (form) such as morphological or behavioral characteristics which lose the material bases through processing, cooking and digestion. Thus, when they avoid eating certain animals, the Mbuti try to cut off the possibility of such a whole assimilation.

Such a view on the diseases and the food restriction provides them with a causational explanation of diseases. As well as the cause of diseases in general, it

also explains why a particular man (or his/her child) gets an illness at a particular time (the explanation is that a man has got an illness because he (she) ate a dangerous animal in a certain period). This puts the Mbuti food restriction in a similar position to that of witchcraft in a more complex agricultural society. The Azande who live in southern Sudan and north of the Ituri Forest believe it is because of witchcraft that a particular man at a particular time gets a serious disease or other misfortune (Evans-Pritchard, 1955). The problem is then to clarify the difference between the two types of causational explanation. Why diseases are considered to be brought by the animals from the natural world in the Mbuti society, whereas in the Azande or in other agricultural societies (see, Kakeya, 1976 and 1977) they are thought to be brought through witchcraft, that is, through manipulation of supernatural powers by humans in the same society. The key to an understanding of this difference may perhaps be found in the degree and nature of social integration, and in the belief of the possibility of manipulation of supernatural powers. I would finally point out that the loosely organized Mbuti society lacks witchcraft, whereas more complex agricultural societies have it, and that witchcraft may be associated with the potential of human control over the natural environment through domestication of plants and animals.

NOTES

* The villager connected with a particular Mbuti is called *kpa* or *kpa-la-mo* (my *kpa*) by the Bira-speaking Mbuti, and *muto* or *muto-maia* by the Lese-speaking Mbuti (Efe).

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Appendix. Animal food species of the Mbuti (recorded in the Tetri Region from 1974 to 1985).

Scientific Name	English Name	Vernacular Name	Remark
Mammalia	Mammals	nyama	
Pan troglodytes	chimpanzee	siko	nginiso, ekoni, kweri-I
Colobus abyssinicus	Abyssinian colobus	mbolo	ekoni, kweri-I, III
C. angolensis	Angolan colobus	mbela	kweri-I, III
C. badius	red colobus	masakpu, aboi	
Cercocebus albigena	grey-cheeked mangabey	akputu	ekoni, kweri-I, III
C. galeritus	crested mangabey	angala	kweri-I, II, III, IV
Cercopithecus hamlyni	Hamlyn's monkey	mudukpu, kadui	nginiso
C. ascanius	red-tailed monkey	mbeke	
C. mitis	blue monkey	(a)saba	
C. mona denti	Dent's monkey	mbengi, chabira	kweri-I, II, III
Papio anubis	Anubis baboon	apula	
Galago demidovi	Demidov's galago	epinje	ekoni, kweri-I, II, III, IV
G. inustus	needle-clawed galago	ekpanga	ekoni, kweri-I, II, III, IV
Perodicticus potto	potto	abaku	ekoni, kweri-I, II, III, IV
Mannis tricuspis	tree pangolin	eboso	ekoni
M. gigantea	giant pangolin	tope	ekoni
Ocycteropus afer	ant bear	ngibo	ekoni
Dendrohyrax arboreus	tree hyrax	shoka	ekoni, kweri-I, III
Loxodonta africana cyclotis	forest elephant	mbongo	ekoni* (also prohibited at stage III)
Hippopotamus amphibius	hippopotamus	asanda	
Okapia johnstoni	okapi	mboti	
Syncerus caffer nanus	forest baffalo	njali	nginiso
Hylochoerus meinertzhageni	giant forest hog	ekuma	
Potamochoerus porcus	bush pig	ngoya	kweri-I, III
Boocerus euryceros	bongo	syoli	
Heamoschus aquaticus	chevrotain	ahele	prohibited to women
Neotragus batesi	Bate's antelope	anbilo, teta	same as above, nginiso, kweri-I, II**, III
Cephalophus nigrifrons	black-fronted duiker	nge	head and internal organs prohibited to women
C. dorsalis	Bay duiker	kuha	same as above
C. leucogaster	Gabon duiker	seke	same as above, kweri-I, II**, III, IV**
C. callipygus	Peter's duiker	apole	same as above, kweri-I, II**, III, IV**
C. sylvicultor	yellow-backed duiker	moinbo	same as above, kweri-I, II**, III, IV**

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
C. monticola	blue duiker	nbuku	internal organs prohibited to females
Viverra civetta	civet	samo	nginiso (muli), kweri-I, III
Mellivora capensis	honey badger	kunbukunbu	nginiso (muli), kweri-I, III
Genetta servalina	small-spotted genet	asimbasimba	nginiso (muli), ekoni, kweri-I
G. victoriae	Victoria genet	pita	nginiso (muli), kweri-I
Crocuta crocuta	spotted hyaena	piti	nginiso (muli), kweri-I, II, III, IV
Felis aurata	golden cat	esele	nginiso (muli)
Panthera pardus	leopard	muli	nginiso
Bdeogale nigripes	black-legged mongoose	ndele	(nginiso muli), kweri-I, III
Crossarchus obscurus	dark mongoose	kpolokpolo	(nginiso muli), kweri-I, III
Atilax paludinosus	marsh mongoose	apakekeke	(nginiso muli), kweri-I, III
Atherurus africanus	brush-tailed porcupine	njiko	nginiso, kweri-I, III
Hystrix cristata	crested porcupine	njingi	nginiso (njiko), kweri-I, III
Cricetomys emini	giant rat	apembe	ekoni
Thryonomys swinderianus	cane rat	sengi	
Funisciurus lemniscatus	four-striped squirrel	akoda	nginiso
Protoxerus stangeri	giant squirrel	pangu	nginiso (akoda)
Sciuridae	squirrel	petu	nginiso (akoda)
Sciuridae	squirrel	amakakacha	nginiso (akoda)
Sciuridae	squirrel	amakpikpikpi	nginiso (akoda)
	bat	ako	kweri-I, II, III, IV, V
	bat	elubu	kweri-I, II, III, IV, V
Rynchocyon cirnei	chequered elephant shrew	amapepepe	ekoni
Potamogale velox	otter shrew	amepulu	kweri-I, II, III, IV, V
Anomalurus spp.	flying squirrel	embulu	kweri-I, II, III, IV, V
Aves	Birds	babu	
(Non-passeriformes)			
Egretta garzetta	little egret	nyange	kweri-I, II, III, IV, V
Ardeidae	heron (purple heron?)	apakolo	kweri-I
Anatidae	ducks and geese	libata	
Anatidae	duck	euya	
Lophaetus occipitalis	long-crested eagle	sonbouko	
Gypohierax angolensis	palm nuts vulture	amakonbi	kweri-I
Polyboroides radiatus	harrier hawk	ndia	

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Accipitridae	eagle	segbe	
Accipitridae	eagle	mukue	
Agelastes niger	black Guinea-fowl	gbengbengbe	kweri-I, II, III, IV
Francolinus lathami	forest francolin	endombi	ekusa
F. sp.	redleg (francolin)	ekombi	ekusa
F. sp.	francolin	koryakorya	ekusa
Guttera plumifera	plumed Guinea-fowl	kanga	kweri-I
Phasianidae	quail?	amakipowali	
Sarothrara pulchra	white-spotted crake	amabonbonbon	kweri-I, II, III, IV, V
Turtur tympanistria	tambourine dove	kuka	kweri-III
Collumbidae	dove	etiti	kweri-III
Collumbidae	dove	pimo	kweri-III
Collumbidae	dove	mbingi	kweri-III
Treron australis	green pigeon	kpetule	kweri-III
Corythaeola cristata	great blue turaco	kulkoko	nginiso, ekoni (also prohibited in III)
Tauraco sp.	turaco	apakolokolo	kweri-I, II, III, IV, V
Ceuthmochares aereus	yellowbill coucal	amakpenbe	
Centropus senegalensis	senegal coucal	fifi	kweri-I, II, III, IV, V
? Cuculidae		amabaoha	
Poicephalus sp.	parrot	akukwa ngoma	kweri-I, II, III, IV, V
Poicephalus sp.	parrot	akukwa toto	kweri-I, II, III, IV, V
Halsyon sp.	kingfisher	alungengiya	kweri-I
Ispidina picta	Pygmy kingfisher	mangamako, salukpi	kweri-I
Myioceyx lecontei	dwarf kingfisher	mangamako, salukpi	kweri-I
Merops gularis	black bee-eater	amediyange	
M. sp.	bee-eater	mbyalo	
Bycanistes albotibialis	white-thighed hornbill	ngawa (tini)	
Ceratogymna atrata	wattled black hornbill	apachochocho	kweri-I, II
Tropicranus albocristatus	white-crested hornbill	katakata	kweri-I
Bucerotidae	hornbill	kohekohe	nginiso, kweri-I
Bucerotidae	hornbill	abikyangolo	kweri-I
Bucerotidae	hornbill	apakunyekunye, gobya	kweri-I
Colius striatus	speckled mouse bird	manjoa	
Buccanodon duchailui	yellow-spotted barbet	bururu	

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Gymnobucco bonapartei	grey-throated barbet	ekpee	
Pogoniulus bilineatus	golden-rumped tinkerbird	amapongotolo	
P. scolopaceus	speckled tinkerbird	amapongotolo	
Trachyphonus purpuratus	yellow-billed barbet	bakukubakuku	
Campethera caroli	brown-eared woodpecker	amanbere	
C. nivosa	buff-spotted woodpecker	amnabere	
Picidae	woodpecker	amangoko	
(Passeriformes)			
Andropadus latirostris	yellow-whiskered bulbul	njomba	
Baepogon indicator	white-tailed bulbul	amepiya	
Bleda syndactyla woosnami	bristlebill	gbengbe	kweri-I
Nicator chloris	West African nicator	amapopo	eaten only by circumciser
Pycnonotus barbatus	yellow vented bulbul	kpupele	
Pycnonotidae	greenbul	kietu	
Pycnonotidae	grrenbul	kpedada	
Pycnonotidae	bulbul	esholo	
Pycnonotidae	bulbul	nbilie	
Tepsiphon viridis	paradise flycatcher	anjaberi	
T. rufiventer igneu	black-headed paradise flycatcher	suekeke	kweri-I, II
Bias musicus	black-and-white flycatcher	amakulukulu	
Platysteira castanea	chestnut wattle-eye	amekpongo	
P. blisseti jamesoni	Blisset's wattle-eye	amekpongo	
P. sp.	wattle-eye	amekpongo	
Stizorphia fraseri		manbuapiso	
Trochocercus nigromitratus	black-crowned crested flycatcher	amatanbeka	
Alethe diademata	fire-crested alethe	bunjaku	
A. poliocaphala	brown-chested alethe	mopie	nginiso
Cossypha cyanocampter	blue-shouldered robin chat	alipandoi	kweri-I, II
Stiphornis erythrothorax	forest robin	tungulubei	
Muscicapidae	flycatcher	cheecheechee	
Muscicapidae	flycatcher	amendurunduru	
Apalis sp.	apalis	amasiesie	
Camaroptera brachyura	broad-tailed camaroptera	amabe	
Eremomera badiceps	brown-crowned eremomera	amakasatembu	

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Prinia bairdii	banded prinia	dede	
P. leucopogon	white-chinned prinia	dede	
Hylia prasina	green hylia	kpelekese	
Oriolus brachyrhynchus	black-headed oriole	amakokobuo	
Dicrurus ludwigii	square-tailed drongo	apasia	
Anthreptes sp.	sunbird	amatinebulu	
Nectarina sp.	sunbird	amatinebulu-	
Mandingoa nitidulus	green-backed twin-spot	amandengendenge	
Lonchura fringilloides	magpie mannikin	njinji	
Nigrita canicapilla	grey-headed negro-finch	amayeye	
Spermophago poliogenys	Grant's blue-bill	katu nyeusi	
S. ruficapilla	red-headed blue-bill	katu nyeusi	
Estrildidae	blue-bill	katu	
Malimbus nitens	blue-billed malimbe	siele-la-muka	
Plocerus cucullatus	black-headed weaver	siele	
P. nigerrimus nigerrimus	Vieillot's black weaver	siele	
Ploceidae	weaver	amachiyo	
Ploceidae	weaver	siele-ya-ngongo	
Unidentified		pie	
– do. –		manbuekendu	
– do. –		angula	
– do. –		goria	
– do. –		amapolangungu	
– do. –		amakbokokboko	
– do. –		amasanginbo	
– do. –		tunutunu	
– do. –		manbuekpolo	
– do. –		manbue-ituri	
– do. –		bungoda	
– do. –		efumbe	
– do. –		njidanjida	
– do. –		ameshumashuma	
– do. –		amanbokanibokani	
– do. –		anganbo	

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Reptilia	Reptiles	nyama, njoka	
Crocodylus niloticus	crocodile	ngwende	kweri-I, II* (eggs only)
Osteolaemus teraspis	dwarf crocodile	amanato, amaongaonga	nginiso (anbai), kweri* (eggs only)-I, III
Varanus sp.	monitor	anbai	nginiso, kweri* (eggs only)-I, III
Unidentified	land tortoise	amatie, koti	kweri* (eggs only)-I, III
Python sp.	python	nbiya	nginiso (njoka)
Bitis gabonicus	viper	mboma	nginiso (njoka)
Bitis sp	viper	fele	nginiso (njoka)
Amphibia	Amphibian	nyama	
Unidentified	frog	efiti	prohibited to males
Unidentified	frog	mangbe	prohibited to males
Osteichthyes	fish	basu	
Pelteobagridae	catfish	njo	ekoni
Pelteobagridae	catfish	bunge	
Pelteobagridae	catfish	kebuku	
Mastacembelidae	spiny eel	kambanyoka	nginiso (njoka), ekoni
Characidae	charachin	nbe	
Characidae (? *Alestes*)	charachin	pemba	
Cyprinidae		pono	
Mormyridae	elephant-nosed fish	abeke	ekoni, kweri-I
Cichlidae	cichlid	ekpokolo	
? Shilbeidae	silver fish	pendakula	ekoni
Unidentified		kbonboko	
– do. –		syali	
– do. –		sua	ekoni
– do. –		kbera, bandakala	
– do. –		sardine	
– do. –		mangba	kweri-I
– do. –		mukoloto	ekoni, kweri-I
– do. –		efoto	
Non-Vertebrata		mbuka	
Mollusca	freshwater snail	bicho	eaten by women and children only
– do. –	land snail (escargo)	mbenbe	eaten by women and children only
Crustacea	freshwater crab	kika	eaten by women and children only

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Insecta	insects	mbuka	
Acrididae	locust	banyonyo, senene	
Rhynchophoridae	larva of elephant beetle	sholewa	
Cerambycidae	larva of beetle	pela	
Lepidoptera	caterpillar	enbobo	
Lepidoptera	caterpillar on *Bridelia*	enjeku	
Lepidoptera	caterpillar on "toko"	toko	
Lepidoptera	caterpillar on "kánya"	kanya	
Lepidoptera	caterpillar on "poyo"	basoko poyo	
Lepidoptera	caterpillar on "lubese"	basoko lubese	
Lepidoptera	caterpillar on "songo"	basoko songo	
Lepidoptera	caterpillar on "tobye"	basoko tobye	
Isoptera	termites	mbondi (bandonge)	
Isoptera	termites	esiko (bandonge)	
Isoptera	termites	kalo (bandonge)	
Isoptera	termites	anjiani	
Himenoptera			
Apis mellifera adansoni	honeybee	njoki	
Meliponula bocandei	stingless bee	apiso	
Axestotrigona simpsoni	stingless bee	amapiso	
		balongo	
Apotrigona ref. *komiensis*		akpula	
	stingless bee	abisi	
Axestotrigona ref. *ferruginea*		kou	
Pleiella lendiana	stingless bee	aundo	kweri-l
Dactylurina staudingeri	stingless bee	keku	
Hypotrigona braunsi	stingless bee	pelepele	
? H. araujor	stingless bee	patinanboko	
Apidae	stingless bee	pakpedikongo	kweri-l
Apidae	stingless bee	pobo	
Apidae	stingless bee	kpodou	
Apidae	stingless bee	pendilindele	
Plants (restricted species only)			
Dioscorea sp.	wild yam	aduaka	ekoni (also prohibited at stage III)

Appendix (Contd.).

Scientific Name	English Name	Vernacular Name	Remark
Dioscorea sp.	wild yam	tomba	ekoni (also at stage III)
Ipomoea sp.	wild tuber	kisombi	ekoni (also at stage III)
?	wild nuts	njee	kweri-I
?	mushroom	mamgbama	atikisa
?	mushroom	sikpolo	muziro ya mukila, ekoni (also at stage III)
?	mushroom	isamba	muziro ya mukila
?	mushroom	(a)matama	muziro ya mukila
?	mushroom	amakakacha	kweri-?

Note:

1) For plant food species, see Tanno, 1981. Only the restricted species are listed here.
2) Identification of mammals by *"A field guide to the mammals in Africa"*
3) Identification of birds by *"A checklist of the birds of the world"*, Collins, 1976, *"A field guide to the birds of East Africa"*, Collins, 1963, *"A field guide to the birds of West Africa"*, Collins, 1977, and *"African Handbook of birds"*, Longman.
4) The Mbuti probably regard all the fish as their food. Only those directly observed are listed here.
5) Identification by Prof. Shoichi Sakagami, Hokkaido University.
6) I-V are stages of a life cycle at which *kweri* animals are avoided. I- before weaning, II-pre-adolescence, III- initiation period, IV- youth, V- adult (see, text).

*: Only a part of an animal is restricted, or, only the eggs are restricted.
**: Only immature animals are restricted.